

**Discharge of Condition no. 4**  
**2013/7038/P**

**29 Heath Drive, NW3 7SB**

This following information will be passed onto the builders to follow for the construction of the green roof.

**Substrate**

Install new 18mm exterior grade plywood (to BS EN 636-2003: Clause 8) fixed in accordance with the current revision of BS 8217 & BS 6229 ensuring it is of adequate rigidity for the joist spans involved and fixed with corrosion resistant ring shanked nails or screws at 150mm centres to the perimeter of the panels and 300mm along the intermediate supports. Fixings should be well driven to avoid damage to the membrane.

The Icopal Sedum Mat must be laid on the Icopal Extensive substrate, for 29 Heath Drive we will be using a substrate depth of 80mm. The finished surface of the extensive substrate will be level for the Icopal Sedum Mat to ensure a good contact between the substrate and the sedum roots. This will ensure a quicker establishment time.

**Substrate Preparation**

Install Icopal HT125 Taping Strip loose laid and tacked to one side only. Xtra-Seal QD Bitumen Primer will be applied to the plywood / OSB substrate at the specified coverage rate and allowed to dry thoroughly.

**VCL**

Profiles Vapour-Vent XL will be applied by careful torching as specified to the roof deck. At all details, the VCL must be bonded to the field area VCL by a minimum 150mm and extend vertically to a minimum 100mm above the finished insulation level or angle fillet to create an envelope with the underlay.

**Underlay**

Profiles XL Sand will be applied to the substrate by careful torching ensuring the thermofusible film is completely removed from the underside as work proceeds and that a full bond is achieved. Head laps to be 100mm and side laps 75mm minimum. Ensure a continuous 5mm bead of bitumen extrudes from all laps.

**Capsheet**

A layer of Rootbar Mineral Capsheet will be applied and fully bonded to the underlay by careful torching ensuring the thermofusible film is completely removed from the underside of the capsheet and the upper surface of the underlay as work proceeds. Head laps to be 100mm and side laps 75mm minimum. All details to be formed in accordance with current codes of practice as separate items. Ensure a continuous 5mm bead of bitumen extrudes from all laps. On roof areas with slopes greater than 5°, all head laps in the capsheet must be suitably mechanically fastened to avoid the possibility of the waterproofing slipping, and fixed in accordance with BS 8217.

**Waterproofing Details**

All details to be formed as separate items consisting of a layer of Profiles XL Sand as the underlay and Rootbar mineral capsheet. Colour of details to match main field roof area. Ensure full bonding of the underlay and capsheet by careful torching ensuring the thermofusible film is completely removed from the underside as work proceeds. All side laps will be 75mm minimum and all overlaps onto the field area to be a minimum 150mm. All details to be formed in accordance with current codes of practice and Icopal instructions. Ensure a continuous 5mm bead of bitumen extrudes from all laps.

### **Upstands, Flashing & Terminations**

The VCL must be dressed up the upstand to allow a minimum 100mm lap with the waterproofing when it is installed.

Install FormFlash cover flashing dressed into the chases provided and secure using FormFlash Fixing Clips at 400mm centres and every change of direction. Cut, joint and dress the new flashing neatly to provide a minimum 75mm cover to the upstand waterproofing. Complete by pointing with Xtra-Seal Bitumen Sealant.

### **Trims & Drips**

Form a welted drip detail from the specified cap sheet, reinforced using strips of 6mm hardboard or plywood and fixed to a treated timber drip batten at 50mm staggered centres. Turn the cap sheet back onto the roof a minimum 150mm and fully bond onto the roof underlay before application of the cap sheet. Drips should be securely fixed to prevent wind uplift problems all in accordance with Icopal's current standard details and the recommendations of BS 8217.

### **Rainwater Outlets**

Install suitably sized Roofgard Rainwater Outlet in accordance with current instructions ensuring a watertight seal is achieved between the outlet and downpipe to prevent water backing up and entering the building. The outlet has a high performance membrane flange that should be fully supported and bonded between the underlay and cap sheet by careful torching. Complete installation with Roofgard Universal or Turbine Leaf Grate securely located and tightened.

### **Rooflights**

Install Icopal Dalite Dome unit, to the waterproofed builder's kerb in accordance with manufacturer's current installation instructions. The builder's kerb should be waterproofed in accordance with the main roof specification and all internal and external dimensions (incorporating the depth of any insulation and waterproofing) must be confirmed by the contractor prior to ordering the rooflight.

Where existing upstands are a non-standard size, the Dalite Kerb Adaptor can be supplied to allow a standard size Dalite Dome to be fitted. The Dalite Kerb Adaptor increase the width of the kerb, so as to avoid any loss of daylight area, allowing the next larger standard size Dalite rooflight to be fitted.

The Dalite Kerb Adapter can be used if the internal kerb dimension is up to 400mm (ie, 200mm per side) less than the nominal rooflight size, provided the external length and width of the upstand are smaller than the nominal rooflight size.

Install rooflights by others as per planning application 2013/7038/P.

### **Green Roof**

Roll out a layer of Icopal SLP300 Protection Fleece, loose-laid, with a minimum 150mm laps. Dress the fleece up at all perimeters, penetrations and upstands.

Install Icopal Fytonop 20 Drainage Board. Adjoining boards should be overlapped with the first two rows of 'cups', sitting inside one another. Care must be taken that any ponding water on the roof does not back up into the growing substrate profile. If this is likely to occur, then a deeper drainage board may be required. Consult Icopal Technical Services for guidance.

Unroll Icopal Filter Fleece with the loose end firmly up against the starting edge. Handle with care to avoid any damage.

Overlap all edges by a minimum of 150mm along all edges. The Icopal Filter Fleece should be installed to contain the substrate, ie lapped up the sides of planter walls and any upstands or kerbs etc.

Install Icopal EasyGreen sedum modules down onto the roof and push the units together so that the lugs and 'V' attachments located on the sides of the module 'click' into place.

Modules may be cut to size/shape using a suitable power tool such as an angle grinder, making sure that the waterproofing is fully protected at all times. It is recommended that a suitable fertilizer is applied to keep the sedum plants healthy. This may be a spring feed of slow/controlled release fertilizer to last the growing season, or more regular granular/liquid feeds throughout the growing season. A recommended slow-release fertilizer would be the Icopal 11-9-19 (N-P-K) fertilizer, preferably applied in the spring, just before it is due to rain. There should be no fertilizer applied once the plants start coming into the autumn/winter period where, due to the prevailing weather, plant growth naturally slows down.

Gravel borders are recommended to keep planting away from any waterproofed upstands or any roof penetrations, such as rooflights, outlets, vent pipes etc. Install drainage aggregate to all relevant upstands immediately above the filter fleece.

### **Sedum Blanket Species**

The mixed sedum mat comprises a coir fibre mat with a thin layer of peat/gravel substrate, into which the sedum plants grow. As the rear of 29 Heath Drive faces south, it is proposed that the sedum will have 7 species that can withstand drier conditions. Please see below for the breakout of coverage across the 40 sq m roof.

- sedum lydium (50%)
- sedum acre (15%)
- sedum album coral carpet (10%)
- sedum minor (10%)
- sedum sexangulare ( 5%)
- sedum lydium glaucum (5%)

- sedum spurium / sedum hybride immer grunchen (5%)

**Guarantee and maintenance provided by ICOPAL**

*Icopal Limited hereby offer a 20 Year 'Insured System Plus Guarantee' on the above project at 29 Heath Drive, subject to satisfactory installation and completion of the waterproofing specification. All works completed should be in accordance with relevant and current codes of practice or manufacturer's instructions and should be carried out by an Icopal system approved installer.*

*Upon completion Icopal Limited should be notified to make a final inspection of the works. An Icopal representative will attend site in conjunction with the approved contractor to carry out a final inspection and ensure that the recommendations set out in this specification have been observed and agree any necessary remedial works. All work by others necessary to provide a weathertight finish should be satisfactorily complete prior to the final inspection. Following the satisfactory signing off of the project, the contractor should complete and submit a guarantee application form to Icopal's Technical Services Department within one month of the signing off date. All supporting test certificates (where necessary) should accompany the guarantee application. Upon receipt and verification of all documentation and subsequent payment of monies where applicable, the Icopal Guarantee will be despatched to the approved contractor.*

*All correctly installed Icopal Waterproofing Membrane Systems will require regular scheduled maintenance inspections. The provision of maintenance must be conducted in accordance with the recommendations given in the current revisions of BS 6229 and BS 8217.*

*The guarantee has inspections at each 5th anniversary of the practical completion date and these inspections must be carried out by the original approved contractor, in conjunction with Icopal.*

*Anyone working within 2metres of roof edge must wear safety harness attached to lanyards fixed to points provided. The ICOPAL system incorporates a filter layer to minimize the risk of debris blocking the system, however bi-annual checks would be required to clear guttering. Light hand weeding must be undertaken every 3 months as sedum is not highly competitive and it needs to be kept free of wind-borne seeds.*